MICHIGAN FARMER.

Devoted to Agriculture, Horticulture, and Domestic and Rural Affairs.

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From the Horticulturist.

Plantations of Trees.

Now that the season of the present is nearly over, now that spring with its freshness of promise, summer with its luxury of developement, and autumn with its fulfilment of fruitfulness, have all laid their joys and benefits at our feet, we naturally pause for a moment to see what is to be done in the rural plans of the future.

The planting season is at hand. Our correspondence with all parts of the country informs us, that at no previous time has the improvement of private grounds been so active as at present. New and tasteful residences are every where being built. New gardens are being laid out.—New orchards of large extent are rapidly being planted. In short, the horticultural zeal of the country is not only awake—it is brimfull of energy and activity.

Private enterprise being thus in a fair way to take care of itself, we feel that the most obvious duty is to endeavor to arouse a corresponding spirit in certain rural improvements of a more public nature.

We therefore return again to a subject which we dwelt upon at some length last spring—the planting of shade trees in the streets of our rural towns and villages.

Pleasure and profit are certain, sooner or later, to awaken a large portion of our countrymen to the advantages of improving their own private grounds. But we find that it is only under two conditions that many public improvements are carried on. The first, is when nearly the whole of the population enjoy the advantages of education, as in New England. The second, is when a few of the more spirited and intelligent of the citizens move the rest by taking the burden in the beginning upon their own shoulders by setting the example themselves, and by most zealously urging all others to follow.

The villages of New England, looking at their sylvan charms, are as beautiful as any in the world. Their architecture is simple and unpretending—often, indeed, meagre and unworthy of notice. The houses are surrounded by enclosures full of trees and shrubs, with space enough to afford comfort, and ornament enough to denote taste. But the main street of the village is an avenue of Elms, positively delightful to behold. Always wide, the over-arching boughs form an aisle more grand and beautiful than that of any old gothic cathedral. Not content, indeed, with one avenue, some of these villages have, in their wide, single street, three lines of trees, forming a double avenue, of which any grand old palace abroad, might well be proud. Would that those of our readers, whose souls are callous to the charms of the lights and shadows that bedeck these bewitching rural towns and villages, would forthwith set out on a pilgrimage to such places as Northampton, Springfield, New Haven, Pittsfield, Stockbridge, Woodbury, and the like.

When we contrast with these lovely resting places for the eye, embowered in avenues of Elms, gracefully drooping like mountains of falling water, or Sugar Maples swelling and towering up like finely formed antique vases—some of the uncared for towns and villages in our own State, we are almost forced to believe that the famous common schools of New England teach the æsthetics of art, and that the beauty of shade trees is the care of especial professorships. Homer and Virgil, Cicero, Manlius, and Tully, shades of the great Greeks and Romans!—our citizens have named towns after you, but the places that bear your names scarcely hold leafy trees enough to renew the fading laurels round your heads!—while the direct descendants of stern Puritans, who had a holy horror of things ornamental, who cropped their hair, and made penalties for indulgences in fine linen, live in villages overshadowed by the very spirit of rural elegance!

It is neither from a want of means, or want of time, or any ignorance of what is essential to the beauty of body or of mind, that we see this neglect of the public becomingness. There are numbers of houses in all these villages, that boast their pianos, while the last Paris fashions are worn in the parlors, and the freshest periodical literature of both sides of the Atlantic fills the centre tables. But while the comfort and good looks of the individual are sufficiently cared for, the comfort and good looks of the town are sadly neglected. Our education here stops short of New England. We are slow to feel that the character of the inhabitants is always, in some degree, indicated by the appearance of the town. It is, unluckily, no one's especial business to ornament the streets. No one feels it a reproach to himself, that verdure and beauty do not hang like rich curtains, over the streets in which he lives. And thus a whole village or town goes on from year to year, in a shameless state of public nudity and neglect, because no one feels it his particular duty to persuade his neighbors to

join him in making the town in which he lives, a gem of rural beauty instead of a sorry collection of uninteresting houses.

It is the frequent apology of intelligent persons who live in such places, and are more alive to this glaring defect than the majority, that it is impossible for them to do any thing alone, and their neighbors care nothing about it.

One of the finest refutations of this kind of delusion, exists in New Haven. All over the Union, this town is known as the "City of Elms." The stranger always pauses, and bears tribute to the taste of its inhabitants, while he walks beneath the grateful shade of its lofty rows of trees. Yet a large part of the finest of these trees were planted, and the whole of the spirit which they have inspired, was awakened by one person—Mr. Hillhouse. He lived long enough to see fair and lofty aisles of verdure, where, before, were only rows of brick or wooden houses; and, we doubt not, he enjoyed a purer satisfaction, than many great conquerors who have died with the honors of capturing kingdoms, and demolishing a hundred cities.

Let no person, therefore, delay planting shade trees himself, or persuading his neighbors to do the same. Wherever a village contains half a dozen persons zealous in this excellent work of adorning the country at large, let them form a society and make proselytes of those who are slow to be moved otherwise. A public spirited man in Boston does a great service to the community, and earns the thanks of his countrymen, by giving fifty thousand dollars to endow a professorship in a college; let the public spirited man of the humble village in the interior, also establish his claim to public gratitude, by planting fifty trees annually, along its public streets, in quarters where there is the least ability or the least taste to be awakened in this way, or where the poverty of the houses most needs something to hide them, and give an aspect of shelter and beauty. Hundreds of public meetings are called, on subjects not half so important to the welfare of the place as this, whose object would be to direct the attention of all the householders to the nakedness of their estates, in the eyes of those who most love our country, and would see her rural towns and village homes made as attractive and pleasant as they are free and prosperous.

We pointed out, in a former article, the principle that should guide those who are about to select trees for streets of rural towns—that of choosing that tree which the soil of the place will bring to the highest perfection. There are two trees, however, which are so eminently adapted to this purpose in the Northern States, that they may be universally employed. These are the *American Weeping Elm* and the *Silver Maple*. They have, to recommend them, in the first place, great rapidity of growth; in the second place, the graceful forms which they assume; in the third place, abundance of fine foliage; and lastly, the capacity of adapting themselves to almost every soil where trees will thrive at all.

These two trees have broad and spreading heads, fit for wide streets and avenues. That fine tree, the *Dutch Elm*, of exceedingly rapid growth and thick dark green foilage, makes a narrower and more upright head than our native sort, and, as well as the Sugar Maple may be planted in streets and avenues, where there is but little room for the expansion of wide spreading tops.

No town, where any of there trees are extensively planted, can be otherwise than agreeable to the eye, whatever may be its situation, or the style of its dwellings. To villages prettily built, they will give a character of positive beauty that will both add to the value of property, and increase the comfort and patriotism of the inhabitants.

From the American Agriculturist.

Swarming of Honey Bees.

The cause of swarming, in all cases, is an excess of population, the bees not having room for all to work to advantage. When bees are placed in very large hives, or when they are quartered in an open room, as is sometimes done, they never swarm. Swarming may also be prevented by affording additional room, either at the bottom, top, or side of the hive during the swarming season. As a matter of profit, in the increase of stocks, bees should never be placed in rooms, or in hives larger than twelve inches square. If we should hive two swarms, the one in a hive *two* feet square, and the other in a hive *one* foot square; or in hives of the same solid contents, though differently shaped, the result of the increase of each, at the end of five years, would be, with good management, about as follows: viz. the swarm in the larger hive would about half fill it with comb the first year; the second year it would be completed, but no new swarm. The following spring would find the hive full of comb, but only half full of bees; and it would require the third year to replenish, and so it would continue, *ad infinitum* yearly replenishing its lost population, and at the end of fifty years you would have no more bees than when you commenced!

The other hive would be plumply filled the first year; the second year a couple of prime swarms might be calculated on; the third year, we will say, only one swarm each—a very low estimate—we now have six swarms; the fourth year we will double to a certainty, and the fifth year the same, making 24 swarms, while the larger hive "stands alone in its glory," if not entirely annihilated by the ravages of the moth, the more probable result of the two. In each hive there is but one queen, which is the source of all the increase. The eggs are laid by her. A hive one foot square, is as large as she can use. In such a hive all the workers that she desires to carry out her ends can be fully accommodated. Ten thousand bees to a hive in the spring are

all-sufficient; more would be but an encumbrance; hence, we find, that though there be one hundred thousand in a large hive during the breeding season, the following spring finds them departed to that "bourne whence they never return."

The principal laying of the queen depends much upon the mildness of the spring and much upon the strength of the stock. I am fully satisfied that many of my stocks are in progress of breeding through the entire winter, to some extent. Indeed that such is the case with any populous stock we have abundant proof, in cases where the stock has been destroyed in the heart of winter, as an experiment to test the fact.—Where such is the case, there is not that diminution in the number of bees from fall to spring that ordinarily occurs. In weak stocks, the internal heat necessary for the maturing of the young brood cannot be produced, and we find that such stocks are compelled to await the approach of warm weather. Here we have the basis of prosperity in a nut-shell. If we cannot so manage that our hives will be populous to their greatest capacity, we may as well give up the idea of perfect success at once.

If the hive be well filled, the queen is fully aware that a large portion of her increase, which the laws of nature compel her to give, must leave her domicil; and she also, through instinct, learns that each swarm must be provided with a queen-regent, like herself, in order to perpetuate their species. These queens, or rather princesses, are produced from the common egg from which issue the workers, or from a common worker-grub, in its primary stages of advancement by a particular treatment. This fact is shown by the mode of artificial swarming, now practised to some extent; the philosophy of which is this: if a piece of comb, containing the young brood of different stages of maturity, be attached to the top of an empty hive, and a quantity of bees be placed therein, having no queen, they will select a certain aged grub from the comb afforded them, and by a particular process of nursing and feeding (the nature of which never was nor ever will be known by us) they will produce a perfect queen, and proceed in their avocation as usual. Without this piece of comb no power or ingenuity of man could cause the bees to perform a single day's labor.

As each swarm requires a *princess* from the old stock, from two to six are generally produced every spring, and such as are not wanted are immediately put to death, as it is entirely out of the question for more than one to exist in the same hive, unless it be during the short period awaiting the issue of a swarm. A very remarkable circumstance occurs in the developement of these young princesses; they are so timed in their maturity as to issue from their cells respectively just as they are wanted to take their departure with the swarms. That is, giving them a short period after quitting their cells, to gain strength for the journey, say forty-eight hours.—It must here be borne in mind, that where there is sufficient room, as in very large hives, the queen sees no necessity of swarming, and consequently takes no measures to furnish the young princesses.

Indeed it often occurs that she neglects to do this in cases where the greatest necessity exists for them, and as a swarm never leaves in such a case, we find many of our hives loaded with bees, clustering around and below during the entire warm season, which we watch with anxiety from day to day, or hour to hour, wondering what can keep them spell-bound to their tenement! As the needle invariably points to the north pole, and no human power can change this law of nature, so is the queen-bee the load-stone that draws every bee to her. The broiling rays of a summer sun, famine, nay, the prospect of a certain death cannot move them. But when a young queen sallies forth on the wing of uncertain destiny, she is the magnet that draws after her a goodly portion of the animated mass. Whither she goes they follow, and as she would gather her subjects around her, preparatory to the journey, she selects a slender branch of some small tree and alights. The bees at once commence clustering around her, perhaps some few minutes before the last have left the hive. Whether the bees ever select a habitation before leaving the hive, is a matter of doubt with me. They sometimes do take at once, after issuing, to some suitable tenement, such as a decayed hive, or some hole in a building, or perhaps they may cluster for a few minutes, and then rapidly take their flight to the forest. All this may be and probably is concerted after swarming. In confirmation of this, I once had a swarm issue from the hive in which the day previous it had been lodged, and after revolving a long time in the air, settled down upon the very hive from which they had just issued. Now here is an instance where a particular location is fixed upon while on the wing. What caused this singular operation I cannot say, unless it was that they took some dislike to the hive and afterwards concluded to try it again. In order to remove such a difficulty, I took another hive, and as soon as they had fully clustered set it upon a table, and also set the hive with the bees upon its side near it; then with a dusting brush swept them gently down upon the table, and they quietly entered the new hive, and did well.

The number of bees produced from April to July, in a strong stock, may be estimated at 20,000 to 30,000. The first swarms I have generally found to be the largest, though some consider, that in general, the second are so. The third are usually small. The period between first and second swarms is nine days; between second and third, six or seven, and if yet another, the next day or two. The time, however, is dependant upon the weather. If we have hot, sul-

try weather, the bees mature more rapidly, and are increased in numbers, and consequently throw off swarms faster, but we need never look for a second swarm sooner than a week, and if the weather be cold and wet, it may be delayed fourteen days.

There is a catastrophe attending a rainy spell of weather during the swarming season, that many persons may not be aware of, which is this: The queen, in laying the foundation of new princesses, calculates upon their maturity at certain periods; when, if the weather should permit, swarms would be ready to issue, according to her principles of the science; but as she cannot foretell the weather, she is often caught with three or four of these royal scions on hand, and the weather does not permit the issue of a swarm for several days, as fine weather for such an operation alone will do.

As the princesses ripen to maturity, a spirit of jealousy begins to be engendered, that sets the whole hive in an uproar. Here is a sad dilemma! The old queen expects to go off with the first swarm, in person, as soon as the weather becomes fine; in the meantime there are several young expectants of assuming the reigns of government, who begin to show a spirit of revolt as they grow in strength and age. If this state of things last for a week, through rainy weather, their jealousy becomes so furious that a general fight of extermination takes place, and the one that finds herself alive last, assumes the reigns of that stock; and if all the princesses have matured, there will be no more swarming that season.

This is another reason why bees do not swarm, when we think they do not know what is for their own interest; but I assure the reader, that when they do not send off swarms, it is for a good and sufficient cause, though we may not be able to comprehend it. T. B. Miner.

Ravenswood, L. I. May, 1847.

Influence of Horticulture.

The multiplication of Horticultural Societies is taking place so rapidly of late, in various parts of the country, as to lead one to reflect somewhat on their influence, and that of the art they foster, upon the character of our people.

Most persons, no doubt, look upon them as performing a work of some usefulness and elegance, by promoting the culture of fruits and flowers, and introducing to all parts of the country the finer species of the vegetable productions. In other words, they are thought to add very considerably to the amount of physical gratification which every American citizen endeavors, and has a right to endeavor, to assemble around him.

Granting all the foregoing, we are inclined to claim also, for horticultural pursuits, a political and moral influence vastly more significant and important than the mere gratification of the senses. We think, then, in a few words, that horticulture and its kindred arts, tend strongly to fix the habits and elevate the character of our whole rural population. One does not need to be much of a philosopher to remark that one of the most striking of our national traits, is the *spirit of unrest*. It is the grand energetic element which leads us to clear vast forests, and settle new States, with a rapidity unparalleled in the world's history; the spirit, possessed with which, our yet comparatively scanty people do not find elbow-room enough in a territory already in their possession, and vast enough to hold the greatest of ancient empires; which drives the emigrant's wagon across vast sandy deserts to California, and over rocky mountains to Oregon and the Pacific; which builds up a great State like Ohio in thirty years, so populous, civilized and productive, that a bare recital of its growth sounds like a genuine miracle to European ears; and which overruns and takes possession of a whole empire like that of Mexico, while the cabinets of old monarchies are debating whether or not it is necessary to interfere and restore the balance of power in the new world as in the old.

This is the grand and exciting side of the picture. Turn it another light, and study it, and the effect is by no means so agreeable to the reflective mind. The *spirit of unrest*, followed into the bosom of society, makes of man a feverish being, in whose Tantalus' cup *repose* is the unattainable drop. Unable to take root anywhere, he leads, socially and physically, the uncertain life of a tree transplanted from place to place, and shifted to a different soil every season.

It has been shrewdly said, that what qualities we do not possess are always in our mouths.—Our countrymen, it seems to us, are fonder of no one Anglo-Saxon word than the term *settle*. It was the great object of our forefathers to find a proper spot to settle. Every year large numbers of our population from the older States, go west to settle; while those already west *pull up*, with a kind of desperate joy, their yet new-set *stakes*, and go farther west to settle again. So truly national is the word, that all the business of the country, from State debts to the products of a "truck farm," are not satisfactorily adjusted till they are "settled;" and no sooner is a passenger fairly on board one of our river steamers, than he is politely and emphatically invited by a sable representative of its executive power to "call at the captain's office and *settle!*"

Yet, as a people we are never settled. It is one of the first points that strikes a citizen of the old world, where something of the dignity of repose, as well as the value of action, enters into their ideal of life. De Toqueville says, in speaking of our national trait:

"At first sight, there is something surprising in this strange unrest of so many happy men, restless in the midst of abundance. The spectacle itself is, however, as old as the world. The novelty is to see a whole people furnish an exemplification of it.

"In the United States a man builds a house to spend his latter years in, and sells it before the roof is on; he brings a field into tillage, and leaves other men to gather the crops; he embraces a profession and gives it up; he settles in a place which he soon after leaves, in order to carry his changeable longings elsewhere. If his private affairs leave him any leisure, he instantly plunges into the vortex of politics; and if at the end of a year of unremitting labor, he finds he has a few day's vacation, his eager curiosity whirls him over the vast extent of the United States, and he will travel fifteen hundred miles in a few days to shake off his happiness."

Much as we admire the energy of our people, we value no less the love of order, the obedience to law, the security and repose of society, the love of home, and the partiality to localities endeared by birth or association, of which it is in some degree the antagonist. And we are therefore deeply convinced, that whatever tends, without checking due energy of character, but to develope along with it certain virtues that will keep it within due bounds, may be looked upon as a boon to the nation.

Now the difference between the son of Ishmael, who lives in tents, and that man who has the strongest attachment to the home of his fathers, is, in the beginning, one mainly of outward circumstances. He whose sole property is a tent and a camel, whose ties to one spot are no stronger than the cords which confine his habitation to the sandy floor of the desert, who can break up his encampment at an hour's notice, and choose a new and equally agreeable site, fifty miles distant, the next day—such a person is very little likely to become much more strongly attached to any one spot of earth than another.

The condition of a western emigrant is not greatly dissimilar. That long covered wagon, which is the Noah's ark of his preservation, is also the concrete essence of house and home to him. He emigrates, he "squats," he "locates," but before he can be fairly said to have a fixed home, the spirit of unrest besets him; he sells his "diggins," to some less adventurous pioneer, and *tackling* the wagon of the wilderness, migrates once more.

It must not be supposed, large as is the infusion of restlessness into our people, that there are not also large exceptions to the general rule.—Else there would never be growing villages and prosperous towns. Nay, it cannot be overlooked by a careful observer, that the tendency to "settle" is slowly but gradually on the increase, and that there is, in all the older portions of the country, growing evidence that the Anglo-Saxon love of home is gradually developing itself out of the Anglo-American love of change.

It is not difficult to see how strongly horticulture contributes to the developement of local attachments. In it lies the most powerful *philtre* that civilized man has yet found to charm him to one spot of earth. It transforms what is only a tame meadow and a bleak aspect, into an Eden of interest and delights. It makes all the difference between "Araby the blest," and a pine barren. It gives a bit of soil, too insignificant to find a place in the geography of the earth's surface, such an importance in the eyes of its possessor, that he finds it more attractive than countless acres of unknown and unexplored "territory." In other words, it contains the mind and soul of the man, materialized in many of the fairest and richest forms of nature, so that he looks upon it as tearing himself up, root & branch, to ask him to move a mile to the right or the left. Do we need to say more, to prove that it is the panacea that really "settles" mankind?

It is not, therefore, without much pleasurable emotion, that we have had notice lately of the formation of five new horticultural societies, the last at St. Louis, and most of them west of the Alleghanies. Whoever lives to see the end of the next cycle of our race, will see the great valleys of the west the garden of the world, and we watch with interest the first development, in the midst of the busy fermentation of its active masses, of that beautiful and quiet spirit, of the joint culture of the earth and the heart, that is destined to give a tone to the future character of its untold millions.

The increased love of home and the garden in the older States, is a matter of every day remark; and it is not a little curious, that just in proportion to the intelligence and settled character of its population, is the amount of interest manifested in horticulture. Thus, the three most settled of the original States, we suppose to be Massachusetts, New York and Pennsylvania; and in these States horticulture is more eagerly pursued than in any others. The first named State has now seven horticultural societies; the second, five; the third, three. Following out the comparison in the cities, we should say that Boston has the most settled population, Philadelphia the next, and New York the least so of any city in the Union; and it is well known that the horticultural society of Boston is at this moment the most energetic one in the country, and that it is stimulated by the interest excited by societies in all its neighboring towns. The Philadelphia society is exceedingly prosperous; while in New York we regret to say, that the numerous efforts that have been made to establish a society of this kind have not, up to this time, resulted in any success whatever. Its mighty tide of people is as yet too much possessed with the spirit of business and of unrest.—*Downing's Horticulturist.*

Grasshopper Seasons—Scald-mouth in Sheep.—We were, the other day, informed by Abel Walker, Esq., of Whiting, that he had observed for several "grasshopper seasons," quite a prevailing disease among sheep and that this disease was termed "scald-mouth." He knew not the

precise couse of this distemper, but said he had known many sheep die of it. Mr. Walker has now discovered a remedy, and wishing to benefit other sheep-growers, desires that the remedy be as widely known as the disease, and for this purpose requests its publication in the Voice, trusting other papers will copy for the benefit of their sheep-growing neighbors.

The remedy is simply this—apply tar, clear from other substances, and in its natural state, to the parts affected, which will soon remove the difficulty and cause a new covering to grow on the parts but recently so tender as to prevent the sheep from securing sufficient nourishment for its subsistence.—*Vt. Voice of Freedom.*

From the Horticulturist.

Washington's Letters on Agriculture.

LETERS ON AGRICULTURE, *from His Excellency* GEORGE WASHINGTON to ARTHUR YOUNG and SIR JOHN SINCLAIR, etc. Edited by FRANKLIN KNIGHT. Washington, 1847. Published by the Editor. New York, Baker & Scribner. 1 vol. quarto, with plates, 198 pp.

For a long time, the halo of WASHINTON'S civil and military glory has kept out of view his extraordinary talent in other directions. Mankind, too, are so reluctant to allow great men the meed of greatness, in more than one sphere of action, that there has, we think, always been a national want of faith regarding the pre-eminence as an agriculturist, to which Washington is most undeniably entitled.

We are inclined to think that, considering the great disadvantages of the time in which he lived, he was one of the wisest, most successful, and most scientific farmers that America has ever yet produced.

Washington, as it is well known, was a very large landed proprietor. Before the Revolution, he was one of the most extensive tobacco planters in Virginia. His crops of this staple, he shipped in his own name, to Liverpool or Bristol, loading the vessels that came up the Potomac, either at Mount Vernon, or some other convenient point. In return, he imported from his agents abroad, improved agricultural implements, and all the better kind of clothing, implements and stores needed in the domestic economy of his estate. During the Revolution, although necessarily absent from Mount Vernon, he endeavored to carry out his plans by frequent and minute directions to his manager there.

No sooner had the war closed, than Washington immediately retired to his beloved Mount Vernon, and was soon deeply immersed in the cares and pleasures of the life of an extensive landed proprietor. But it was by no means a life of indolent repose, though upon an estate large enough to secure him in the possession of every comfort. The very first year after the war, he directed his attention and his energies to the improvement of the mode of farming then in vogue in the whole of that part of the country.

He quickly remarked, that the system of the tobacco planters was fast exhausting the lands, and rendering them of little or no value. He entered into correspondence with the most distinguished scientific agriculturists in G. Britain, studied the ablest treatises then extant abroad on that subject, and immediately carried into practice the most valuable principles which he could draw from the soundest theory and practice then known. At a time when the planters were thinking of abandoning their worn-out lands, Washington began a new and most excellent system of *rotation of crops*, based on a careful examination of the qualities of the soils on his estate, and by substituting grains, grass, and root crops, for tobacco, he soon restored the soil to good condition, and found his income materially increasing, while his neighbors who pursued the old system, were daily growing poorer.

Nothing was more remarkable, among the trials of this great man's character, and nothing contributed more to his success in all he undertook, than the complete manner in which he first mastered his subject, and the exact method in which he afterwards marked out and pursued his plans.

In farming, this was evinced in the thoroughly systematic course of culture which he adopted on his Mount Vernon estate. This estate consisted of about 8000 acres, of which over 2000 acres, divided into five farms, were under cultivation. On his map of this estate, every field was numbered, and in his accompanying agricultural field book, the crops were assigned to each field for several years in advance. So well had he studied the nature of the soils, that with slight subdivisions and experimental deviations, this scientific system of rotation was pursued with great success, from about 1785 to the close of his life.

After about four years—the most agreeable, doubtless of his whole life—passed at Mount Vernon, in its improved condition, he was again called, by the spontaneous voice of one people to the Presidency. Much has been said and written about the reluctance of CINCINNATUS to leave his farm, and return to the service of the Roman Republic; but the sources for regret in his position must have been small, compared to those which Washington felt, when he left Mount Vernon on this occasion. The farm of Cincinnatus, which has been rendered famous in classical history, was an hereditary allotment of *four acres*, and its cultivation was part of the daily toil of his own hands. Mount Vernon, on the other hand, was one of the largest and loveliest estates in America; it stood amid the rich landscape beauty of the Potomac, its beautiful lawns running down to the river, its serpentine walks of shrubbery, its fruit and flower garden, planted by its master's own hands,* and its broad acres render-

* Washington's residence exhibited every mark of the cultivated and refined country gentleman. He appears to have had considerable taste in ornamental gardening; he decorated his

ed productive by an intelligent and comprehensive system of agriculture of his own construction—think, oh ye who have never thus taken root in the soil, how hard it must have been for Washington *the Farmer*, to surrender again, even at the flattering wish of a whole nation, the life that he so much loved, for the hard yoke of what he felt to be the most difficult public service!

It is the best proof of how thoroughly devoted by natural taste was Washington to agriculture, that instead of leaving Mount Vernon to the charge of the excellent agent whom he had well grounded in his own system of practice, and who could no doubt have continued that practice with success, he never lost sight for a moment amid all the pressing cares of public life, of his rural home, or his favorite occupation. We can scarcely give a better idea of the man and his system, than by the following extract, touching this very portion of his life, from Sparks' admirable biography:

"With his chief manager at Mount Vernon, he left full and minute directions in writing, and exacted from him a weekly report, in which were registered the transactions of each day on all the farms, such as the number of laborers employed, their health or sickness, the kind and quantity of work executed, the progress in planting, sowing or harvesting the fields, the appearance of the crops at various stages of their growth, the effects of the weather on them, and the condition of the horses, cattle and other live stock. By these details, he was made perfectly acquainted with all that was done, and could give his orders with almost as much precision as if he had been on the spot. Once a week, regularly, and sometimes twice, he wrote to the manager, remarking on his report of the preceding week, and giving new directions. These letters frequently extended to two or three sheets, and were always written with his own hand. Such was his laborious exactness, that the letter he sent away was usually transcribed from a rough draft, and a press copy was taken of the transcript, which was carefully filed away with the manager's report, for his future inspection. In this habit, he persevered with unabated diligence, through the whole eight years of his Presidency, except during the short visits he occasionally made to Mount Vernon, at the close of the sessions of Congress, when his presence could be dispensed with at the seat of government. He, moreover, maintained a large correspondence on agriculture with gentlemen in Europe and America. His letters to Sir John Sinclair, Arthur Young and Dr. Anderson, have been published, and are well known. Indeed his thoughts never seemed to flow more freely, nor his pen move more easily, than when he was writing on Agriculture, extolling it as a most attractive pursuit, and describing the pleasure he derived from it, and its superior claims not only on the practical economist, but on the statesman and philanthropist."

The volume before us, which Mr. Knight has given to the public, in a very handsome quarto form, consists mainly of the correspondence referred to in the preceding quotation. The letters to Sir John Sinclair are rendered more interesting by their being facsimiles, showing the fine bold hand-writing of their illustrious author. Besides there is some very interesting collateral correspondence by Jefferson, Peters, and others, throwing additional light on the husbandry of that period. Engraved portraits of General and Mrs. Washington, views of the mansion at Mount Vernon, a map of the farms, etc., render the volume more complete and elegant.

It is not as conveying instruction to the intelligent agriculturist of the present day, that we commend this work; for the art and science of farming have made extraordinary progress since this early era in the history of our country. But it is as revealing a most interesting and little known portion of Washington's life and character, in which his own tastes were more peculiarly gratified, and in which he was no less successful, than in any other phase of his wonderfully great and pure life.

pleasure grounds with much effect; and his diary shows that he collected and planted a variety of rare trees and shrubs with his own hands, and watched their growth with the greatest interest. He employed skilful gardeners, and pruning was one of his favorite exercises.

Neatness in Farming.

We have somewhere heard the remark, that with the good farmer every thing gives way to his business—that utility is all, and appearance nothing; hence you are not to expect neatness about his dwelling, his door-yard being cut up into mud by the farm-wagon and manure cart, and the contiguity of barns, pig-pens, and kitchen, such as convenience, and not freedom from the peculiar odors of hog yard and rich manure heap, may dictate.

Now to speak bluntly, this is all nonsense. It so happens that, in farming, neatness and thrift almost invariably go together. The same love of order which prompts the farmer to clear his yard of broken barrels, old hoops, fragments of boards and sticks of wood, and whatever else defaces and defiles his premises—also prompts him to have a place, for everything, and every thing in its place, which is calulated to bear upon real substantial profit.

Some of the very best of farmers with whom we are acquainted—whose eminent success and heavy profits separate them in this respect, in bold distinctness, from the rest of their neighbors—are patterns of neatness; and the touch of their hand in the expulsion of every kind of nuisance, is visible all over their farms. Their door-yards show that the master is "at home;" the barn-yard, which is not so near the house that all the butter and cheese manufactured is flavored with the effluvia, exhibits the same neatness even where all the refuse of other places is collected, for enrich-

ing, in due time, the rest of the farm. A farmer of our acquaintance, with one hundred and sixty acres, in whose farm-yard we could scarcely ever discover a wisp of straw in the wrong place, remarked—"Oh, I don't attempt to make a great deal from my farm—I expend so much in improvements that my clear profits are only about a thousand dollars a year." Another of those neat farmers, in whose fields cockle, docks and chess obtain no foot-hold, nor along whose fences a solitary elder-bush or nettle is ever seen, raised twenty-seven hundred dollars worth of farm produce at the prices of 1844; and both of these farmers live in Western N. Y., where prices are comparatively low, entirely away from the peculiar advantages of market which nearness to great cities gives.

Now let no one say that these remarks are made at the wrong season of the year, and that nothing can be done for neatness and order in the winter. The same general rule, in some shape or variation, has an almost infinite number of applications. The care of domestic animals in winter needs pre-eminently the application of this rule. No animal can thrive well in the midst of dirt.

Even a pig does not love dirt for dirt's sake; he only happens to be so much of a philosopher, or rather stoic, that he is willing to endure dirt for the sake of a soft and cool bed in summer, for it has been found that these animals thrive better and fatten much faster when kept clean and well curried.

Horses and cattle are often neglected in cleanliness. We have actually known some who did not clean the manure from horse stables for months, allowing it gradually to thicken under foot with the accumulating litter till a foot in thickness—and reasoning doubtless as the boy did who combed his hair once a month, and was astonished that such torture and trouble from the operation could be endured daily by other people.

A farmer who does his own chores can hardly afford to keep his horse as finely as the gentleman of wealth, who has a man for no other purpose; but every one should have his stable floor perfectly clean at least twice every day, once in the morning and once at night before littering, and oftener would be better.

Remember that the oftener it is done the easier it is accomplished.

There are many other particulars where neatness may be attended to in winter.

Gate hinges and gate fastenings often need repair, that they may shut like clock work; boards become loose on old barns and board fences; tools become awkward for use, and need remodeling or renewing; and many other small matters, in-doors and out, require attention. We are aware, that to many of our readers, who are already examples for others, such hints as the preceeding are not applicable—to such we can say that they need not read them, like the man who chiseled on the stone at the fording place—"When the water comes to this stone it is unsafe to cross."—*Ex.*

From the American Agriculturist.

More Facts about Pork and Bacon.

Since the publication of my article in your September number about pork, I have received so many inquiries about the matter, that I desire to answer them through you, and as all the minutiæ are desired to be known, I will commence at the beginning.

Have the hogs well fatted. To scald them you don't need a kettle as big as a thimble. The most convenient vessel is a trough to scald in. To heat a hogshead of water, build up a fire of logs and chunks near your killing place, and heat a dozen stones as big as your head, red-hot, or as near it as you can. Put these, or a part of them, in the water until hot enough, and then take out and repeat if needed. It is the easiest way you ever heated water. If you have a trough, the stones may remain in one end while you scald in the other. When ready to cut up, lay the carcass on the cutting bench upon its back, and first take off its head leaving all the neck with the shoulder, take off the jowls, for they make excellent bacon. Now if the hog weighs over 200, cut off the ribs on each stde of the back-bone—if smaller, split the back-bone—take out the backbone clear to the tail, with as little meat as possible—next cut out a large and handsome-shaped ham, then the shoulder just as close to the point of the blade bone as you can—now trim off the tender loin, and all loose lean pieces for sausage-meat, and strips of belly and skirts of fat on all the pieces for lard. Your hog is now cut into six pieces (excluding head and scraps,) which will be about three-fourths of the entire weight.—Lay these pieces, flesh side up, on the bench or floor, and sprinkle fine saltpetre at the rate of two ounces to the cwt., and then sprinkle or rub fine salt over them at the rate of six pounds to the cwt., and continue to pile up one piece upon another as long as you like. If the hams weigh about 25 lbs. each, and do not freeze, they will salt in four weeks, being overhauled once in the time for the air to come to all parts, and to rub a little of the loose salt upon fresh looking spots.—When ready to hang up, sweep off all loose salt, and smoke in a room that is not tight, and be sure never to have the fire near enough to heat the meat in the least degree—use sweet wood, and continue a moderate smoke for four or five weeks. Now take a cotton bag (the weather being still cool,) big enough to cover the ham and hang loosely, and tie the mouth of it closely around the string of the ham, and as long as you let it hang, so long you will have just such good, old, sweet bacon as I do.

I am aware that this is in part a repetition of the other article, but it seems so hard to make

your Down East folks understand how to make Hoosier bacon.

I will give you another detailed table of weights of a dozen hogs and all the separate parts in the spring.

Those who have written to me upon this subject will please accept this as an answer.

SOLON ROBINSON.

Crown Point, Lake Co., Ia., Dec. 23, 1846.

Root-Grafting Apple Trees.

[The method of root grafting, described below, it is proper to say, is not in universal esteem among nurserymen, some being of opinion that it detracts from the healthfulness and longevity of the tree. Two of our correspondents, experienced and skillful nurserymen, have spoken against the practice. We would suggest whether the objections may not be obviated by a proper selection of roots used for grafting. When the roots are taken from old or unthrifty trees, the imperfections of the parent would very naturally be continued in the engrafted scion. But if the roots are of young and healthy seedling stocks, we apprehend no bad consequences could ensue. We insert the following article, therefore, with this caution, as describing a very easy and rapid method of propagation.]

Allow me to give to the public, through your valuable journal, some account of the quickest and the easiest mode of raising apple trees by root grafting as I am desirous of encouraging young nurserymen and propagators in the raising of apple trees.

1st. In the fall, all the seedling apple stocks intended for grafting should be carefully taken up, and placed in a heap in a cellar, and then the roots taken off and carefully preserved by mixing them with sand: all the scions intended for use should be cut before the frosty weather sets in, and carefully placed in sand or earth. Grafting may be commenced as early as convenient; it will not matter if you begin as early as Nov., and work at it through the winter till March, provided the roots, after being grafted, are heeled into boxes, and placed in the cellar till spring.

2d. All the roots, as you want them, should be washed, and then cut into pieces about four inches long or less, according to their strength, and placed regularly on a table or bench, and the scions cut about three inches long, and placed in a heap near at hand; and then begin to graft.—The system which I have always tried, and which succeeded best, is tongue-grafting, making a nice fit with the barks, and then bind slightly with muslin strings. These strings are made by mixing six ounces of Burgundy pitch, six do. of tallow, three do. of beeswax. These should be melted, and then put on to muslin with a brush. It may then be cut into strips nine inches long, and an inch in breadth. This is better than matting, as it does not require to be cut off. The boxes should be made twelve inches deep, two feet in width, and three feet in length, and filled with fine sifted mold or sand.

Trees grafted by this system are the best, grow very thrifty, and are generally fit for sale in two years, if placed in good soil. A man accustomed to grafting can do from nine to twelve hundred a day very easily, and tie his own strings. Weak growing kinds generally grow stout and remarkably straight by this plan, and as it can be done in the winter, when nothing else of consequence can be done, there is a great saving of time.

In the spring, the boxes should be taken out of the cellar, and placed in some frames, pits, or the green house, to start them into growth: or, if none of these are at hand, place them out of doors in a warm situation, as it is necessary to start them two or three inches before planting out; they will not be injured if you do not plant them out till the middle of May. Such has been my practice of root-grafting, and, if properly done, it will never fail to succeed.—*Hovey's Mag.*

A FLUSHING PROPAGATOR.

Flushing, L. I.

Shifting the Bearing Years of Trees.

It is well known to orchardists that there are two classes of trees in regard to bearing. One class will bear profusely one year, and during the next bear but little, seeming to require time to recruit their exhausted energies. Another class will bear a pretty fair crop every year.

It is sometimes desirable to have some of those that bear in alternate years, bear in different years from some others of the same class, in order to have that variety of fruit every year. It has been often proposed to bring this about by stripping a tree of its fruit early in the summer of one of its prolific years, so as to have it in good condition at the commencement of the next spring, and thereby be enabled to put forth fruit and bear as it would the year previously if it had not been robbed. We have never known this to be actually tried until recently. We see by the last number of Hovey's Magazine of Horticulture, that Mr. Manning, of Salem, has actually tried the experiment with complete success. In describing it Mr. Hovey, who paid a visit to Mr. M. and his garden, says—"Passing a Baldwin apple tree, in full bearing, Mr. M. stated that it was one on which he tried the experiment of changing the bearing year. It is well known that the Baldwin only bears every other year.—To obviate this was the object of Mr. Manning; and in the spring of 1846, he spent nearly two days in cutting off all the blossoms. It had the desired effect; this year, the tree is completely loaded with fruit. This experiment is valuable, for it shows that in a large orchard, when the

trees, by chance, nearly all fruit the same year, any number of them can be made to fruit in the alternate year, simply by the labor of destroying all the blossoms."—*Maine Farmer.*

From the Horticulturist.

Popular Errors about the "Rise & Fall" of Sap.

BY PROF. LINDLEY, UNIVERSITY OF LONDON.

What a curious hallucination is that which supposes the *sap of trees to fall*, or settle, in the winter into the roots! One would have thought that the notorious difficulty of cramming a quart of water into a pint measure, might have suggested the improbability of such a phenomenon. For it certainly does require a very large amount of credulity to believe that the fluids of the trunk and head of a tree, can by any natural force of compression, be compelled to enter so narrow a lodging as the root. The idea, however, has established itself in some persons' minds, and, we presume, in connection with that other old vulgar error, that the sap is in rapid motion in the spring time, in the roots of a tree, before it begins to flow in the branches. These whimsies took their origin in days when the world was contented to accept assertions upon trust, and when hypotheses and vain imaginings formed the debased paper currency of science. But now men have found out the value of a golden standard, both for money and for knowledge; they call for facts before theories; and the result, already, is a wonderful disturbance in the crowded ranks of scientific as well as historical legends.

We shall assume the word *sap* to signify the fluids, of whatever nature, which are contained in the interior of a tree. In the spring, the sap runs out of the trunk when it is wounded; in the summer, autumn, and winter it does not, unless exceptionally, make its appearance. But in truth the sap is always in motion, at all seasons, and under all circumstances except in the presence of intense cold. The difference is, that there is a great deal of it in the spring, and much less at other seasons.

When a tree falls to rest at the approach of winter, its leaves have carried off so much more fluid than the roots have been able to supply, that the whole of the interior is in a state of comparative dryness; and a large portion of that sap which once was fluid, has become solid, in consequence of the various chemical changes it has undergone. Between simple evaporation on the one hand, and chemical solidification on the other, the sap is, in the autumn, so much diminished in quantity as to be no longer discoverable by mere incisions. The power that a plant may possess of resisting cold, is in proportion to the completeness of this drying process.

When the leaves have fallen off, the tree is no longer subject to much loss of fluid by perspiration, nor to extensive chemical changes by assimilation, for the leaves are the principal organs of perspiration and assimilation. But the absorbing power of the roots is not arrested; they, on the contrary, go on sucking fluid from the soil, and driving it upwards into the system. The effect of this is, that after some months of such an action, that loss of fluid which the tree had sustained in autumn by its leaves, is made good, and the whole plant is distended with watery particles. This is a most wise provision, in order to insure abundant food to the new-born leaves and branches, when warmth and light stimulate them into growth.

During all the winter period, the sap appears indeed to be at rest, for the re-filling process is a very gradual one. But M. Biot, many years ago, proved, by an ingenious apparatus, that the rate of motion of the sap may be measured at all seasons; and he ascertained it to be in a state of considerable activity in mid-winter. Among other things he found that frost had considerable influence upon the direction in which the sap moves. In mild weather, the sap was constantly rising; but when frost was experienced, the sap flowed back again—a phenomenon which he referred to the contracting power of cold on the vessels of the trunk and branches, the effect of which was to force the sap downwards into the roots lying in a warmer medium; then, again, when the frost reached the roots themselves, and began acting on them, the sap was forced back into the trunk; but as soon as a thaw came on, and the ground recovered its heat, the roots, out of which a part of the sap had been forced upwards, were again filled by the fluids above them, and the sap was forced to fall. A large Poplar tree, in the latter state, having been cut across at the ground line, the surface of the stump was found to be dry, but the end of the trunk itself dripped with sap. Sap, then, is always in motion; and if it ever settles to the root in a visible manner, that is owing to temporary causes, the removal of which causes its instant re-ascent.

As to the idea that the bleeding of a tree begins first at the root, and, in connection with this supposition, that what is called the rise of the sap is the cause of the expansion of buds, and leaves, and branches, nothing can well be more destitute of any real foundation. If in the spring, when the buds are just swelling, a tree is cut across at the ground line, no bleeding will take place, neither will the sap flow for some distance upwards; but among the branches the bleeding will be found to have commenced. This was observed some years ago by Mr. Thompson, at that time the Duke of Portland's gardener, who thought he had discovered that the sap of trees descends in the spring, instead of ascending; a strange speculation enough it must be confessed. The fact is, that the sap is driven into accelerated motion, first at the extremities of a tree, because it is there that light and warmth first *tell* upon the excitable buds. The moment the buds are excited, they begin to suck sap from the parts with which they

are in contact; to supply the waste so produced the adjacent sap pushes upwards; as the expansion of the leaves proceeds, the demands upon the sap near them become greater; a quicker motion still is necessary on the part of the sap to make good the loss; and thus from above downward is that perceptible flow of the fluids of trees, which we call bleeding, effected.

The well known fact of trees sprouting in the spring, although felled in the autumn, proves that the sap had not at that time quitted the trunk to take refuge in the roots. Such a common occurrence should put people on their guard against falling into the vulgar errors on this subject.

Potatoes.

For a month or two past we have been about to make some remarks on different varieties of potatoes, but as they were constantly changing, some rotting in the ground, others in the cellar, some improving on exposure, from being too watery, others losing quality by early digging, and the action of air and light, we could not find the character of any fixed so as to determine what to say of them. We intended to compare the qualities and time of ripening of several early kinds, on which we made experiments, but we find them varying in value, as some rot more than others, and we cannot yet determine how far this evil will extend, affecting more or less the value of a variety.

The Potatoe Malady is far more extensive in this country, that it has been in any previous year, and in many places it has been unusually severe. It prevails in almost every part of New England, in the Middle States, in some parts of the West, in Canada and Nova Scotia, in short, in almost every part of the country where the potatoe is cultivated.

In some cases farmers have raised 600 or 700 bushels, and they nearly all rotted. In many cases the quantity of sound ones will not exceed the seed that was planted. One farmer observed to us that he had two hands digging one day and they found hardly any sound ones. A great many potatoes in the market are affected with the rot.

As we are blessed with abundant crops of grain we shall not feel the effects of this calamity like ill-fated Ireland, which relied on the potatoe as the staff of life. In this respect we are a highly favored people, from a wide country, diversified climate, and varied productions; yet many farmers will feel this misfortune severely, as it will in many cases make a loss that will exceed all their profits on the farm; and many purchasers that regard the potatoe as a necessary of life, feel unable to pay extravagant prices for their favorite esculent.

The potatoe was growing very luxuriantly until we had heavy rains the first eight or nine days in August, with occasional warm and cold weather, and sudden changes from hot days to cool nights. We thought then the disease would be upon the potatoes shortly. By the middle of August the effects of the unfavorable weather began to show itself in the discolored foliage, and in a few days the disease manifested itself in the tubers. Its progress was slow, and its effects generally slight, until about the 25th or last of September, when it seemed to become suddenly severe, and potatoes whether dug or in the ground have rotted to a greater extent than was ever known before.

Preserving Potatoes.—Many farmers concluded to leave their potatoes in the ground till late, supposing they would rot less in that condition than they would if dug. We have found, by several experiments on the same kind of potatoes raised in the same place, that those in the ground rot more—say twice as much—as those that were dug, dried, and put in the cellar.—*Boston Cultivator.*

Remarks on the purchase of a Horse.

The following directions, &c., were first published in England as part of a prize essay I copy from Skinner's Farmer's Library, and think they may be valuable to the readers of the Cabinet. When the farmer wishes to purchase a horse, and is obliged to go into the market or to auction to do it, he hardly runs a greater risk in any purchase he makes: and he would do well either thoroughly to acquaint himself in the matter, or take a friend with him who is at home when handling the horse. This comes from one who has suffered from his own ignorance.

EQUUS CABALLUS.

"Having selected a horse whose make and shape please us, our next considerations is his soundness; for, though the horse dealer may declare that he is as sound as a bell, we are to take the phrase as one having various meanings, and not be deterred from examining him, and narrowly, too, on that account. Sight, wind, and limb, must be the uppermost objects of inquiry; for nine horses out of ten are defective in one of these particulars. First, then, examine his eyes, and do this before he comes out of the stable.—Having placed him so that the light may fall upon the eyes but in one direction, see that they are of the same size, and equally full; that the hows are not prominent, and that one does not project more than the other; that the eyes are perfectly clear and transparent; and that the pupils, or apples of the eye, are exactly alike in size as well as color. A sunken eye, or one over which the lids are partly closed—a projecting haw—an opaque or semi-opaque front—a pupil dilated, or a white or clouded one—are so many omens of disease, for which we should reject the prad as a cupid, or, what is often worse, a blinker, who will shy at all he meets with, and break your neck the first poser you ride him at. Having satisfied yourself in regard to his peepers, have him pulled out

and next proceed to examine his pipes. If good and sound, on being nipped in the gullet, he will utter such a sound as cannot fail to strike the ear as the emission of a good pair of bellows; but if his lungs are touched, and he is a piper—that is, broken winded, or having no wind at all—he will give vent to a dry, husky, short cough.

Should a horse be suspected of *bad wind*, however, the purchaser cannot do better than direct his attention to the flanks, which, under such circumstances, will work either much quicker than ordinarily, or heave deeply, and with great irregularity; they will be considerably longer in contracting themselves, in order to squeeze the wind out, than in filling to let it in, which they do, if he is a piper, quite suddenly. But, although not a piper, he may be a whistler, or, what is worse, a roarer; the first may be known by the peculiar wheezing he is addicted to when put to sudden or continued exertion; the latter, by blowing his horn clamorously under similar circumstances: and either may be made to display itself, by the purchaser giving him a smart cut, or even feigning to do so, with his bit of lash.

Thirdly and lastly, as to the limbs. If, in passing our hand down his legs, we find any unnatural protuberance, or puffiness, or if, in feeling first one leg and then the other, we discover any difference between them, disease more or less, is present; he may not be lame, but he is not clean upon his legs. Splents, windgalls, and ringbones, may be present without occasioning lameness, but they are all unnatural, are considered blemishes, and are all to be regarded with a suspicious eye, as either denoting past hard work, or betokening future evils. On the same principle, a horse may have a spavin, and be only stiff from it at starting, or he may have a curb, or a thorough pin, and be perfectly sound; but these are still blemishes, and as such detract from the intrinsic value of the animal. In explaining the advantages resulting from good conformation, we are naturally led to make remarks *en passant*, on the disadvantages from one bad; in pursuance whereof, I have shown why such a structure is bad, a question that necessarily entails upon as the mention of the disorders originating therein, *i. e.* the diseases to which such parts, in consequence of being mal-formed, are predisposed."—*Farmers' Cabinet.*

Composition for Shoes.—Two parts of tar, two of beef's tallow, and one of bees-wax, make a good composition for boots and shoes. Apply it quite warm, and warm the leather that it may penetrate. As farmers are frequently exposed to wet, they should be careful to keep their feet dry and warm, for on this their health and comfort in a great measure depend. There are various compositions that are good to resist water and preserve leather, and the proportion of the above may be varied. Tar and tallow will answer alone; so will tallow and bees-wax.

Varieties of Corn—Culture of Potatoes.

Mr. Hurlbut:—As it is yours to throw out observations before the public relative to agriculture, I will present, in a few words, some that I have made this season. In my garden was planted about one-fourth of an acre of corn: a part to yellow dent, another part to common yellow, and some to white flint. At harvesting, the yellow dent filled the basket much the best of any, the yellow next, and the white was the poorest. During the summer, the white was much injured by the dry weather, the yellow a little, and the dent not any. I consider the dent was near twice as good as the yellow, and still farther ahead of the white. As relates to soil and attendance there can have been no material difference.

I will also give you some views, together with some of my observations, on the potato crop.—My early habit of planting pototo was, to just cover the seed, leaving the hill to be made at hoeing time. As I was finishing putting in my potatoes, a neighbor came into the field, and noticing my method of planting, he inquired why I did not make my hill then, &c. He then finished the few hills in his way. They were tended alike, and at harvesting, his hills turned out at least twice the potatoes that mine did. Since that time, it has been recommended to me not to make any hill. I have tried, and am satisfied it is bad policy. Potatoes want a hill. This season my potatoes were well hilled at planting, generally dishing the top to catch the rain. At harvest, my bushel basket was filled, on an average, from eight to nine hills, varying from six to twelve, and never over twelve. They were planted four feet apart, three large bits to each hill, and those placed not less than eight or ten inches apart. Some of the same ground has been planted for two years previous, not hilled, and not half so good as they have been this season.—From all the observations made, I fully believe that to hill potatoes fully at planting time will be likely to insure a much better yield thad any other way they may be put in. Also, it is the easier and better way of tending them. Hills made at the time of planting are never so heavy as those made at hoeing time, also dug easier,—at least I think so.

Yours, &c., Isaac D. Hosford.

Barry, Jackson Co., Nov. 10, 1847.

Fine Flour and Whole Meal.

Prof. Johnston, the celebrated Scotch Agricultural Chemist, has an interesting article in the last number of Blackwood, upon the comparative substance in fine and coarse wheat flour. He argues conclusively to show that whole meal, or flour, containing the entire of the ingredients of the wheat, is not only more healthy but more profitable than fine flour from which the bran, &c., are excluded.

There are three ingredients in the human

body which need constant nourishment, viz: fat, bone, and muscle. The vegetable food we consume contains these substances almost ready formed. Flour from wheat contains them in larger or smaller proportions according to its quality; less if fine, more if unbolted; and the food must be most wholesome which supplies all these ingredients the most abundantly.

The Professor, by a formidable array of analytical demonstrations, proves how much richer the whole meal is than the fine flour in the three above mentioned essential substances. The following table contains all the facts that are necessary, exhibiting at a view the quantities contained respectively in 1,000 pounds of whole meal and fine flour:

	Whole Meal.	Fine Flour.
Muscular matter,	155 lbs.	130 lbs.
Bone material	170	60
Fat	28	20

"Taking the three ingredients, therefore together," says the Professor, "the whole meal is one half more valuable for fulfilling all the purposes of nutrition than the fine flour;" "and especially it is so," he adds, "to children, to mothers, and to those who undergo much bodily fatigue." "It will not be denied," he argues, "that it is for a wise purpose that the Deity has so intimately associated in the grain the several substances which are necessary for the complete nutrition of animal bodies. The above considerations show how unwise we are in attempting to undo this natural collocation of materials. To please the eye and the palate we sift out a generally less nutritive food; and, to make up for what we have removed, experience teaches us to have recourse to animal food of various descriptions."
—*Albany Evening Journal.*

Improved Drill.

An exchange paper has the following notice of an Improved Drill, manufactured by Noadiah Moor, Clinton co., N. Y.

It has been a desideratum in drill husbandry to obtain a machine which would not only distribute the seed fluently, but place it with accuracy, both as to depth and distance, thereby giving uniformity in springing up, and facility to the operation of weeding.

The improved drill not only accomplishes this, but a new principle is introduced by which the ground is so marked out in the process of sowing or planting as to admit of the action of a cultivator or weeder guided by those marks or tracks; the operator pushes it rapidly before him, cutting all weeds between the rows, without injuring the plants, making it perfectly easy to weed before the plants are visible. The weeds, of course, are cut only between the rows, leaving a narrow ribbon of one inch in width, which includes the plants, but inasmuch as the plants are deposited accurately in hills ten inches apart, a garden hoe of nine inch blade cuts out the intervening weeds, requiring a practiced hand to fix his eye only on one of the hills, which if drawn close to one hill will be sure not to cut the other, and will clear the intervening space with expedition and safety.

These drills may be drawn by horse power or by hand—are made to sow four rows at once or one only; are adapted to corn, peas, beans, wheat, onions, beets, carrots, turnips, &c., requiring simply the change of the gauges adapted to each kind of seed. By a series of experiments carried on through many years, it has been ascertained that corn, beans and peas, excepted, the others produce best at the distance named, admitting the use of a four-rowed drill. Corn and beans must be planted by a single-rowed drill adapted to them, and equally so to the other seeds, as it admits of being gauged to any width up to four feet one way, and will place the seeds either ten, twenty, thirty or forty inches the other way.

The success of these machines is fully tested by crops growing on the farm of the undersigned. In Europe, drill husbandry (cleared simply by the hand hoe) has accomplished wonders. One acre is made to produce the value of thirty acres as food for animals, and in some instances six or eight acres for man, added to which, the ground is cleared from noxious weeds, and the quantity of manure is greatly increased. Why should the American agriculturist, with the advantages of improved implements, fear to embark in the culture of root-crops so eminently successful in England? The single drill with the weeder adapted to horse power will cost $25, and four-rowed drills from forty to fifty dollars; light hand drills about half the sum.

Effects of the Absence of Sun and Air.—Dr. Moore, the eloquent and amiable author of "The Use of the body in relation to the mind," says—"A tadpole, confined in darkness, would never become a frog, and an infant being deprived of heaven's free light, will only grow into a shapeless idiot, instead of a beauteous and reasonable being. Hence, in the deep, dark gorges and ravines of the Swiss Valais, where the direct sunshine never reaches, the hideous prevalence of idiocy startles the traveller. It is a strange, melancholy idiocy. Many citizens are incapable of any articulate speech; some are deaf, some are blind, some labor under all the privations, and all are mishapen in almost every part of the body. I believe there is, in all places, a marked difference in the healthiness of houses, according to their aspect with regard to the sun, and that those are decidedly the healthiest *cæteris paribus*, in which all the rooms are, during some part of the day, fully exposed to direct light. It is a well known fact that epidemics attack inhabitants on the shady side of a street, and totally except those on the other side; and even in endemics, such as ague, the morbid influence is often thus partial in its action."—*Farmer & Mechanic.*

From the Farmers' Cabinet.

Spring Budding.

Mr. Editor,—Having frequently tried spring budding, by inserting buds that had already commenced to grow, without much success, an improvement suggested itself, which I put in practice this spring.

Being in your office early the present month, before the success of my experiment could be determined, and meeting an especial favorite, *The Horticulturist*, I naturally turned to the very interesting article on this subject, by R. Nelson.

From the fact that he does not mention any method of pruning the scions, there may be less difficulty in doing so generally, than I have found. Spring budding is not new, but because of the difficulty in preserving buds of the tender fruits, it has been less practised. By cutting scions as late in the spring as the season would allow, covering them with snow, and the snow with chaff and straw, to prevent it melting, until the sap ascends, I have succeeded admirably. The buds then inserted in the usual way, have grown three inches, and not a single failure, except when a blossom bud, instead of a leaf bud, was used.—Those who possess the luxury of an ice-house, could preserve scions in it. This I conceive a great improvement on the usual method of burying in the earth.

I have now fulfilled my engagement, and it will always afford me pleasure to contribute my mite to a department to which the Cabinet is willing to allot so large a space as the last number indicates. J. K. E.

May 24th, 1847.

Age of Poultry.

Farmers usually sell poultry alive, excepting in some parts of the country, such as the Borders, where geese are killed and plucked for the sake of their feathers betore being sent to mardet. Poulterers in towns, on the other hand, kill and pluck every sort of fowl for sale, so that the purchaser has it in his power to judge of the carcasses; and if he buys an inferior article at a high price, it must be his own fault. It is easy to judge of a plucked fowl, whether old or young, by the state of the *legs*. If a hen's spur is hard, and the scales on the legs rough, she is old, whether you see her head or no; but the head will corroborate your observation, if the under bill is so stiff that you cannot bend it down, and the comb thick and rough. A young hen has only the rudiments of spurs, the scales on the legs smooth, glossy and fresh colored, whatever the color may be, the claws tender and short, the under bill soft, and the comb thin and smooth. An old hen turkey has rough scales on the legs, callosities on the soles of the feet, and long, strong claws; a young one the reverse of all these marks. When the feathers are on, an old turkey-cock has a long beard, a young one but a sprouting one; and when they are off the smooth scales on the legs decide the point, besides difference of size in the wattles of the neck, and in the elastic snout upon the nose. An old goose, when alive, is known by the roughness of the legs, the strength of the wings, porticularly at the pinions, the thickness and strength of the bill, and the firmness and thickness of the feathers; and when plucked, by the legs, pinions and bill, and the coarseness of the skin. Ducks are distinguished by the same means, but there is this difference, that a duckling's bill is much longer in proportion to the breadth of its head than that of an old duck. A young pigeon is easily discovered by its pale colored, smooth scaled, tender, collapsed feet, and the yellow, long down interspersed among the feathers.—*Stephens' Book of the Farm.*

Price of Flour.

We are indebted to a friend for the following average of prices of flour in this city from the year 1824 to 1846 inclusive. It is an interesting, and we believe a reliable statement. The averages have been taken on the prices during the season of canal navigation.

Yrs.	av. price.	highest price.	low'st price.	dif. in price
1824	$5 38	$5 50	$5 25	$ 25
1825	4 77	4 87	4 64	24
1826	4 61	5 13	3 88	1 25
1827	4 72	5 75	4 63	1 12
1828	5 78	7 50	4 50	3 00
1829	5 69	7 00	4 50	2 50
1830	5 19	5 25	4 88	37
1831	5 69	6 25	5 19	1 06
1832	6 02	6 25	5 75	50
1833	5 55	5 75	5 38	37
1834	5 01	5 31	4 81	50
1835	6 34	6 94	5 75	1 19
1836	8 19	10 00	7 00	3 00
1837	9 64	12 00	8 50	3 50
1838	8 09	9 00	7 00	2 00
1839	6 99	8 75	6 00	2 75
1840	4 94	5 63	4 75	88
1841	5 61	6 75	4 88	1 87
1842	5 36	6 50	4 13	2 37
1843	4 93	5 38	4 50	88
1844	4 53	4 88	4 13	75
1845	5 00	6 88	4 25	2 63
1846	4 90	6 00	3 75	2 25

Highest average price $9 64, was in 1837.—*Albany Argus.*

To Preserve Eggs Fresh.

Turn water upon unslacked lime, in quantity sufficient to cover the lime. In a short time a scum will rise upon the surface. Then drain off the whole water, and add fresh, and repeat the operation until no more skum rises. Stir up the lime and water, and put in your eggs, so that they are completely covered. This wholly excludes the external air, and preserves them in the finest

order. I have now eggs which have been kept in this way eight months; and on being broken cannot be distinguished from those which are fresh laid. A lady who gave me the receipt, stated that she had preserved them perfectly good in this way for two years. The repeated saturations with water seems necessary to destroy the too great causticity of the lime; otherwise its strong affinity for the carbonate, the material of the egg shell, causes its decomposition.—*Cultivator.*

Economy of Fodder.

A penny saved is two pence earned.—FRANKLIN.

Too many farmers I fear, are obnoxious to the charge of being "penny wise and pound foolish" in some of their affairs. In the feeding of stock for instance, farmers who are scrupulously vigilant, in applying the most rigid principles of prudence in other matters; are shockingly remiss. My object in the present communication is not so much however to censure as to offer a word to those to whom, consequently, a few kindly and timely suggestions may be beneficial. The subject to which I wish at present more particularly to solicit attention, is the economization of fodder—a subject certainly in this climate of transcendant importance, and to which every one who has the care and management of a stock of cattle, ought watchfully to attend. It has been repeatedly demonstrated by experiment, that the simple process of cutting fodder for horses and neat stock will effect a very considerable saving. This is a process easily effected. The machinery or instrument rather used for this purpose is extremely simple and of small cost. A simple operation will cut a sufficiency of straw, hay butts or top stalks in an hour, for a dozen or fifteen head of cattle, and this fodder so cut, moistened with warm water, (if the weather be cold) and fed out with a slight *quantum* of meal, will be twice as effectual in promoting the growth of the animal as if fed to them in its uncut state.

No "orts" are made in this way, and the large and coarse portions are devoured instead of being rejected and thrown away.

By adopting this economical system of feeding his refuse, a farmer may easily convert all his straw, stalks, &c., to a valuable use. If he have plenty of these materials, he may, if he thinks judicious, mix hay with them in such proportions as to him may appear to be best calculated to promote the animals' health and growth; or, he may mix straw, stalks and hay, and then add water, meal and salt. This I find makes a rich feed, and is excellent for milch cows, and by many is considered superior to hay or grain. In some instances I have added boiled potatoes to the above materials, which is doubtless a valuable addition; but objectionable where one has a large stock on the score of its expense. I now prefer feeding the potatoes separate, and in their natural state—say once a week. This prevents costiveness and as the potatoes are laxative conduces greatly to the animals' health.

If those who have never tested this plan will adopt it, they may rest assured of the best results. Let every farmer and stock feeder, therefore, give a fair trial; the expense will be small and far more than refunded in the first week.

In New England, especially in all the best farming region, the chopping of fodder, even English hay, for horses and other stock, is practiced as regularly as the grinding of corn. Hay and straw cutters of superior construction, are there seen for sale in all the principal ware-house and agricultural depots, and are found in most of the barns and stables throughout the New England States.—*Germantown Telegraph.*

A PRACTICAL FARMER.

New Corn Dryer.

At the meeting of the New York State Society, held at Saratoga Springs on the 3d inst., a description was read of a new apparatus for kiln-drying Indian corn, recently erected by Col. John H. Tower, of Clinton, Oneida County. It is as follows:

A frame work of brick is built, arched at the top, enclosing a sheet-iron cylinder, made up of separate tubes about two inches square, coupled together by iron castings. An iron shaft passes through the cylinder, sustained by a support at each end; and over a pulley at one end of this shaft, runs a belt from some of the machinery of the mill, which thus forms the motive power of the machine. The grain runs from a feeder into the head of the cylinder, thence into the tubes, and as the cylinder revolves, one end of it being elevated, the grain has a revolving motion, gradually passes forward and through into a receiver at the other end. A small furnace or common stove in the bottom of the kiln, with pipes passing from it under the cylinder, furnishes the heat, and the rapidity of the drying process depends upon the fire and the elevation of the head of the cylinder, both of which can be regulated at pleasure.

It will be seen that this principle of the dryer is nearly the same as that of Mr. Bulkley, and published by us on the 3d inst., and noticed in the Scientific American of May 22d. Mr. Bulkley uses steam instead of fire heat.—*Scientific American.*

Defective Stables.—There are other defects in stables besides open floors; and one of these defects is in having any floor at all. I am fully persuaded that all stables would be better without floors. Fill in and grade the earth so that the liquid would run back into a gutter, or be absorbed with litter. A composition of clay, lime, sand, and fine coal, is good to make an earthen floor. Another great defect in stables, though in town more than in country, is the want of good ventilation.—*Ex.*

Great yield of Carrots.—A correspondent in Herkimer Co. N. Y. gives an account of a successful experiment in raising carrots. He says:—"I measured off a piece of ground 46 by 24 feet, well plowed, (not spaded,) raked it, and planted in drills 14 inches apart. When they came up, I found they were too thick, as they had been in former years, and pulled out so as to allow them room to grow. In the early part of the season I kept the weeds out, after which the tops grew so that there was not much chance for the weeds. The carrots were the orange variety. On the 20th October I had them dug and measured: the result was 36 bushels, good measure, of handsome carrots. I think I shall plant a larger piece of ground next season."

The yield in this case was at the rate of nearly 1440 bushels to the acre.

Cement for Cisterns.—Take four parts brick dust, finely screened, eight parts fine sharp sand, twelve parts lime, completely slacked by burying in the ground so as to exclude the air during the process of slacking, three parts powdered quick lime newly burnt, and three parts powdered charcoal. First mix the slacked lime, brick dust, charcoal, and sand, with water sufficient to make a mortar thinner than usual, then sprinkle in the quicklime. Mix well with the trowel, and use immediately, as it will soon grow stiff and hard. —*Ex. paper.*

Recipe for dyeing Blue.—Take one pound of pounded logwood, boil it in a sufficient quantity of water until all the substance is out of it, then take about half a gallon of the liquor and dissolve one ounce of verdigris, and half an ounce of alum in it, boil your yarn in the logwood water one hour, stirring it and keeping it loose. Take out your yarn, mix the half gallon that contains the verdigris and alum, then put your yarn into the mixture, and boil it four hours, stirring it and keeping it loose all the time, and taking it out every hour to give it air, after which dry it, then boil it in soap and water and it is done.

The above will dye six pounds of cotton yarn an elegant deep blue. After which put in as much yarn into the same liquor, and boil it three hours, stirring as before, and you will have a good pale blue, or boil hickory bark in your liquor, and you will have a beautiful green.

Rest assured there is no imposition in the above. It is cheap. Any person following the recipe will find it proves satisfactory.—*Southern Cultivator.*

Thatch on the roof of houses, may be rendered incombustible, by coating it over with a mixture of white-wash and alum. One lb. of alum would suffice for five gallons of white-wash.

Market Intelligence.

DETROIT PRICE CURRENT.

GRAIN.—Wheat at city mills, bush.	$0 85
Indian Corn,	37½@40
Barley, at brewery,	37½
Rye,	31½@35
Oats,	22@24
Beans,	50@75
Peas,	50@62½
PROVISIONS.—Flour, bbl. from wagons,	$ 4 75
Buckwheat, retail, 100 lbs.	1 75@2 00
Indian meal, " "	87½@1 00
Hogs, 100 lbs.	$3 25@3 75
Lard, lb. retail,	08
Butter, roll,	14@15
" firkin,	11@13
" retail,	16
Cheese, 100 lbs, Michigan,	$5@6 25
" " Hamburgh,	7 50@8 00
Eggs, doz.,	12½
White fish, bbl.,	6 00@7 00
Trout, "	5 50@6 00
Potatoes, bush., retail,	44@50
Onions,	50
Honey, lb.,	12½
SUNDRIES.—Wood, hard, cord,	$2@$2 50
Hay, ton,	$8@10
Cranberries,	75
Apples, grated, bushel,	50@75
" common,	37½
" dried	1 25
Peaches, dried,	$1 75@2 00
Clover seed, bush.,	$4 00
Herd's grass do. do.	1 00@1 25
Flax " "	62½
Ashes,	6
Salt, bbl.,	$2 00
Lime, "	75

CONTENTS OF THIS NUMBER.

Plantations of trees;	145
Swarming of honey-bees;	146
Influence of horticulture;	148
Washington's Letters on Agriculture;	150
Neatness in farming;	151
More facts about pork and bacon;	152
Root-grafting apple trees;	153
Popular errors about the rise and fall of sap;	154
Potatoes; Remarks on the purchase of a horse;	155
Composition for shoes; Varieties of corn—culture of potatoes; Fine flour and whole meal;	156
Improved drill; Effects of the absence of sun and air;	157
Spring budding; Age of poultry; Price of flour; To preserve eggs fresh;	158
Economy of fodder; New corn dryer; Defective stables;	159
Market Intelligence, &c.;	160

CHOICE BUCKS.

We have TWENTY-FIVE CHOICE YEARLING BUCKS of our own breeding, Saxon Merinoes, hardy and valuable sheep. The price will be $10 per head, delivered on board of boat at Buffalo; and we will pay 50c per lb. for the wool from them next spring, delivered at the Wool Depot in Buffalo.

T. C. PETETS & BRO.

Darien, Genesee Co., N. Y., Oct. 14, 1847.

MICHIGAN FARMER.

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H. HURLBUT, EDITOR.

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